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Patent

AMENDMENT UNDER
37 C.F.R. §1.116
EXPEDITED PROCEDURE
EXAMINING GROUP 2841

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Robert

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of)

STEVEN R. ESKILDSEN et al.)

Examiner: Dinh, T.)

Application No. 09/103,110)

Art Unit: 2841)

Filing Date: 6/23/98)

For: IC PACKAGE WITH EDGE CONNECT)
CONTACTS)

Assistant Commissioner for Patents
Washington, D.C. 20231
BOX AF

AMENDMENT AFTER FINAL ACTION
UNDER 37 C.F.R. §1.116

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Dear Sir:

In response to the Office Action mailed August 16, 2000, which was made final,
applicants submit this Amendment After Final Action for consideration.

FIRST CLASS CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail with
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IN THE SPECIFICATION

B1
On page 1, please delete lines 7-8 and replace with -- The present invention is related to the U.S. Patent Application entitled "IC Package with Quick Connect Feature", Serial No. 09/103,241, and filed on June 23, 1998. --.

IN THE CLAIMS

Please amend claims 1-14 as follows.

B2
Sub C4
1 1. (Twice Amended) An integrated circuit (IC) card, comprising:
2 an IC package having multiple leads extending away from said IC package such that a
3 portion of said multiple leads is not on [in contact with] said IC package; and
4 a casing that encases said package, such that [when] if said casing is inserted into a
5 data processing device, said leads provide an electrical interface between said IC package
6 and said data processing device without use of a printed circuit board and a connector.

B3
Sub C4
1 2. (Amended) The IC card of claim 1, wherein said casing has a front surface
2 having a front opening, such that [when] if said IC package is inserted into said casing, said
3 IC package and said data processing device form said electrical interface through said front
4 opening.

1 3. (Amended) The IC card of claim 2, wherein said casing has a back surface
2 having a back opening such that said IC package is to be inserted into said casing through
3 said back opening.

1 4. (Amended) The IC card of claim 3, wherein said casing has at least one stop
2 at said back opening such that [when] if said IC package is fully inserted into said casing,
3 said stop is to hold [holds] said package securely within said casing.

Sub
C3

1 5. (Amended) The IC card of claim 2, wherein said casing has a bottom surface
2 having a bottom opening such that said IC package is to be inserted into said casing through
3 said bottom opening.

Cond
B3

1 6. (Amended) The IC card of claim 5, wherein said casing has at least one stop
2 at said bottom opening such that [when] if said IC package is fully inserted into said casing,
3 said stop is to hold [holds] said package securely within said casing.

B4

1 7. (Twice Amended) A method of assembling an integrated circuit (IC) card,
2 said method comprising:

3 providing an IC package, said package having multiple leads extending away from
4 said IC package such that a portion of said multiple leads is not on [in contact with] said IC
5 package;

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C3

6 providing a casing; and

7 inserting said IC package into said casing, such that [when] if said casing is inserted
8 into a data processing device said multiple leads is to provide an electrical interface between
9 said IC package and said data processing device without use of a printed circuit board and a
10 connector.

1 8. (Twice Amended) The method of claim 7, wherein providing [a] the casing
2 includes providing [a] the casing having a front surface with a front opening, such that
3 [when] if said IC package is inserted into said casing, said IC package and said data
4 processing device form said electrical interface through said front opening.

1 9. (Twice Amended) The method of claim 8, wherein providing [a] the casing
2 includes providing [a] the casing having a back surface with a back opening, and said
3 inserting said IC package includes inserting said IC package through said back opening of
4 said casing.

1 10. (Twice Amended) The method of claim 9, wherein providing [a] the casing
2 includes providing [a] the casing having at least one stop on said back opening such that
3 [when] if said IC package is fully inserted into said casing through said back opening, said
4 stop is to hold [holds] said IC package securely within said casing

1 11. (Twice Amended) The method of claim 8, wherein providing [a] the casing
2 includes providing [a] the casing having a bottom surface with a bottom opening, and
3 inserting said IC package includes inserting said IC package through said bottom opening of
4 said casing.

1 12. (Twice Amended) The method of claim 11, wherein providing [a] the casing
2 includes providing [a] the casing having at least one stop at said bottom opening such that

3 [when] if said IC package is fully inserted into said casing through said bottom opening, said
4 stop [holds] is to hold said IC package securely within said casing.

Sub
C13
1 13. (Twice Amended) A method of connecting an integrated circuit (IC) to a
2 receptacle of a data processing device, comprising:
3 providing an IC package having multiple leads extending away from said package such
4 that a portion of said multiple leads is not [in contact with] on said IC package; and
Cond
B4
5 inserting said IC package into said data processing device such that said multiple leads
6 from said IC package provide the electrical interface between said IC package and said data
7 processing device without the use of a printed circuit board or a connector.

1 14. (Twice Amended) The method of claim 13, wherein providing [an] the IC
2 package includes providing [an] the IC package having a blade on pad socket device.

REMARKS

Applicants respectfully request that the Amendment After Final Action be admitted under 37 C.F.R. § 1.116.

Applicants submit that this amendment presents claims in better form for consideration on appeal. Applicants submit that thus there is a good and sufficient reason why this amendment is necessary, why this amendment was not earlier presented, and why this amendment should be admitted now. Furthermore, applicants believe that consideration of this amendment could lead to favorable action that would remove one or more issues for appeal.

The disclosure stands objected to for minor informalities.

Claims 1-2 stand rejected under 35 U.S.C. § 102(a) as being anticipated by U.S. Patent 5,659,459 to Wakabayashi *et al.* ("Wakabayashi").

Claims 3-4 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Wakabayashi in view of U.S. Patent No. 4,926,034 to Banjo *et al.* ("Banjo").

Claims 5-6 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Wakabayashi in view of U.S. Patent No. 5,735,040 to Ochi *et al.* ("Ochi").

Disclosure Objection

The Examiner has objected to the disclosure for minor informalities. In particular, the Examiner has required that the missing data on page 1, line 8 be provided. Accordingly, applicants have amended the disclosure to provide the missing data. Withdrawal of this objection is respectfully requested.

35 U.S.C. § 102(a) Rejection

The Examiner has rejected claims 1-2 under 35 U.S.C. § 102(a) as being anticipated by Wakabayashi. In particular, the Examiner states:

As to claim 1, Wakabayashi discloses an IC card (503) as shown in figures 1-11 comprising an IC package (550) having multiple leads (551) extending away from the IC package and not in contact to IC package. A casing (100, 120) encases the package without the use of the printed circuit board and connector (column 10, lines 1-5, column 16, lines 33-41).

(p.2 Office Action 8/16/00).

Applicants respectfully submit that claim 1, as amended, is not anticipated by Wakabayashi. To anticipate claim 1, Wakabayashi must disclose each and every limitation of claim 1. Claim 1 includes the limitations of:

An integrated circuit (IC) card, comprising:
an IC package having multiple leads extending away from said IC package such that a portion of said multiple leads is not on said IC package; and
a casing that encases said package, such that if said casing is inserted into a data processing device, said leads provide an electrical interface between said IC package and said data processing device without use of a printed circuit board and a connector.

(Claim 1)(emphasis added).

In contrast to claim 1, Wakabayashi does not disclose an integrated circuit card having an IC package having multiple leads extending away from said IC package such that a portion of said multiple leads is not on said IC package as recited in claim 1. In further contrast to claim 1, Wakabayashi does not disclose a casing that encases said package, such that if said casing is inserted into a data processing device, said leads

provide an electrical interface between said IC package and said data processing device without use of a printed circuit board and a connector as recited in claim 1.

Wakabayshi, however, discloses that:

An insertion plug 551 is formed on a top or bottom surface of the front end of printed circuit board 550, and consists of a series of electrodes or contacts arranged in parallel on surfaces of the board for contacting matching electrical contacts inside the printer cartridge slot. The number of contacts is determined by the corresponding size of a matching connector conventionally provided in the printer. Connecting or insertion plug 551 may also employ orientation slots or guides, if also used in the printer.

(Wakabayashi, Col.10, lines 38-46)(emphasis added).

As such, the insertion plug 551 consists of a series of electrodes or contacts arranged in parallel on surfaces of the board. Therefore, Wakabayashi does not disclose the claimed multiple leads extending away from said IC package such that a portion of said multiple leads is not on said IC package. Furthermore, Wakabayashi requires a printed circuit board 550.

Therefore, because Wakabayashi does not disclose each and every limitation of claim 1, claim 1 is not anticipated by Wakabayashi. Given that claim 2 is dependent on claim 1, claim 2 is not anticipated by Wakabayashi.

U.S.C. § 103 Rejections

The Examiner has rejected claims 3 and 4 under 35 U.S.C. § 103(a) as being unpatentable over Wakabayashi in view of Banjo. In particular, the Examiner states:

As to claims 3 and 4, Wakabayashi discloses all of the limitations of claimed invention, except for the IC card having a surface including a back opening, and there are at least one stop at the back opening. Banjo teaches the IC card (100) as shown in figure 4A-4C comprising a bottom surface having a bottom opening (2) and including at least one stop (21) at the back opening to hold the IC package in the casing (column 2, lines 62-

65, column 3, lines 5-16). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the IC card of Wakabayashi and provide the back surface having an opening including the stop for holding the IC card into the casing as taught by Banjo because it is design choice of the IC card having an opening on the back of the card for insert the card into the casing of the IC card and the stops that has function to hold and secure the card into the casing.

(p. 3 Office Action 8/16/00).

Applicants respectfully submit that Banjo does not cure the deficiencies of Wakabayashi with respect to amended claim 1. To cure the deficiencies of claim 1, Wakabayashi and Banjo individually or in combination must disclose or suggest each and every limitation of claim 1.

Thus, in contrast to claim 1, neither Wakabayashi nor Banjo individually or in combination disclose or suggest an integrated circuit card having an IC package having multiple leads extending away from said IC package such that a portion of said multiple leads is not on said IC package as recited in claim 1.

In further contrast to claim 1, neither Wakabayashi nor Banjo individually or in combination disclose or suggest a casing that encases said package, such that if said casing is inserted into a data processing device, said leads provide an electrical interface between said IC package and said data processing device without use of a printed circuit board and a connector as recited in claim 1.

Banjo, however, discloses a card reader connector. In particular, Banjo discloses that:

When the IC card 4 is used with the card reader connector 100 in accordance with the present invention, the IC card 4 is inserted through the card-insertion opening 2 into the card-receiving portion 3 of the card reader connector 100, in a manner similar to that of the convention method. At the same time, as shown in FIGS. 5A, 5B, and 5C, the pin-

contact portions 10a of the slide members 10 are brought into contact with the pins 21 so as to open the shutter 7 and to connect the external terminals of IC card and the electrodes of the card reader connector 100 to each other.

(Banjo, Col.3, lines 13-23).

Furthermore, Banjo does not disclose or suggest a "stop" as claimed. In addition, it is respectfully submitted that Wakabayashi does not suggest a combination with Banjo and Banjo does not suggest a combination with Wakabayashi. It would be impermissible hindsight to combine Wakabayashi with Banjo based on applicants' own disclosure.

Therefore, because Wakabayashi and Banjo individually or in combination do not disclose or suggest each and every limitation of claim 1, claim 1 is not obvious over Wakabayashi and Banjo. Given that claims 3 and 4 depend on claim 1, claims 3 and 4 are not obvious over Wakabayashi and Banjo.

The Examiner has rejected claims 5-6 under 35 U.S.C. § 103(a) as being unpatentable over Wakabayashi in view of Ochi. In particular, the Examiner states:

As to claims 5-6, Wakabayashi discloses an IC card and satisfies all of the limitation of the claims, except for the IC card wherein the casing having the bottom surface that has a bottom opening, and the casing has at least one stop at the bottom opening. Ochi shows the IC card (10) having the casing that has the bottom surface including the opening (2a), the casing has at least one stop (20) (column 3, line 65-67, column 4, lines 1-4). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the IC card assembly of Wakabayashi and provide the casing of the IC card that has bottom surface including an opening and stop to hold the IC package as taught by Ochi because it is design choice of the IC card having an opening at the bottom of the card for insert the card into the casing of the IC card and the stops that has function to hold and secure the card into the casing.

(p. 4 Office Action 8/16/00).

Applicants respectfully submit that Ochi does not cure the deficiencies of Wakabayashi with respect to amended claim 1. To cure the deficiencies of claim 1, Wakabayashi and Ochi individually or in combination must disclose or suggest each and every limitation of claim 1.

Thus, in contrast to claim 1, neither Wakabayashi nor Ochi individually or in combination disclose or suggest an integrated circuit card having an IC package having multiple leads extending away from said IC package such that a portion of said multiple leads is not on said IC package as recited in claim 1.

In further contrast to claim 1, neither Wakabayashi nor Ochi individually or in combination disclose or suggest a casing that encases said package, such that if said casing is inserted into a data processing device, said leads provide an electrical interface between said IC package and said data processing device without use of a printed circuit board and a connector as recited in claim 1.

Ochi, however, discloses that:

... Further, the circuit board 2 has a through-hole portion 2a formed in correspondence with the configuration of the battery 4. This through-hole portion is a peripheral edge (the inlet) of a lodging section 8 for receiving the battery 4.

(Ochi, Col.3, line 65 to Col.4, line 2).

Furthermore, Ochi does not disclose or suggest a "stop" as claimed or a bottom opening. In addition, it is respectfully submitted that Wakabayashi does not suggest a combination with Ochi and Ochi does not suggest a combination with Wakabayashi. It would be impermissible hindsight to combine Wakabayashi with Ochi based on applicants' own disclosure.

Therefore, because Wakabayashi and Ochi individually or in combination do not disclose or suggest each and every limitation of claim 1, claim 1 is not obvious over Wakabayashi and Ochi. Given that claims 5 and 6 depend on claim 1, claims 5 and 6 are not obvious over Wakabayashi and Ochi.

The Examiner has rejected claims 7-14 under 35 U.S.C. § 103(a) as being unpatentable over Wakabayashi in view of Banjo and Ochi. In particular, the Examiner states:

Regarding to claims 7-14, the method steps are necessitated by the IC card structure as it is disclosed by Wakabayashi in view of Banjo and Ochi.

(p. 5 Office Action 8/16/00).

Applicants respectfully submit that neither Ochi nor Banjo does not cure the deficiencies of Wakabayashi with respect to amended claim 7. To cure the deficiencies of claim 1, Wakabayashi, Banjo, and Ochi individually or in combination must disclose or suggest each and every limitation of claim 7. Claim 7 includes the limitations of:

A method of assembling an integrated circuit (IC) card, said method comprising:
providing an IC package, said package having multiple leads extending away from said IC package such that a portion of said multiple leads is not on said IC package;
providing a casing; and
inserting said IC package into said casing, such that if said casing is inserted into a data processing device said multiple leads is to provide an electrical interface between said IC package and said data processing device without use of a printed circuit board and a connector.

(Claim 7)(emphasis added).

In contrast to claim 7, neither Wakabayashi, Banjo, nor Ochi individually or in combination disclose or suggest providing an IC package, said package having multiple

leads extending away from said IC package such that a portion of said multiple leads is not on said IC package as recited in claim 1.

In further contrast to claim 7, Wakabayashi, Banjo, nor Ochi individually or in combination disclose or suggest providing a casing and inserting said IC package into said casing, such that if said casing is inserted into a data processing device said multiple leads is to provide an electrical interface between said IC package and said data processing device without use of a printed circuit board and a connector as recited in claim 7.

It is also respectfully submitted that neither Wakabayashi, Banjo, nor Ochi suggest a combination with each other. Furthermore, it would be impermissible hindsight to combine the references based on applicants' own disclosure.

Therefore, because Wakabayashi, Banjo, and Ochi individually or in combination do not disclose or suggest each and every limitation of claim 7, claim 7 is not obvious over Wakabayashi, Banjo, and Ochi. Given that claims 8-14 depend directly or indirectly on claim 7, claims 8-14 are not obvious over Wakabayashi, Banjo and Ochi.

It is respectfully submitted that in view of the amendments and arguments set forth herein, the applicable rejections and objections have been overcome. Accordingly, applicants request that claims 1-14 be found in condition of allowance.

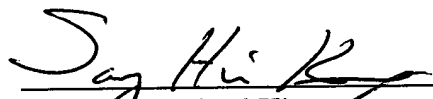
If the Examiner believes a telephone interview would expedite the prosecution of this application, the Examiner is invited to contact Mike Kim at (408) 720-8300 x345.

If there are any additional charges, please charge Deposit Account No. 02-2666.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN

Dated: Sept. 28, 2000


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